NATIONAL AERONAUTICS AND SPACE
ADMINISTRATION
LYNDON B. JOHNSON SPACE CENTER

JUSTIFICATION FOR OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO TITLE 10 U.S.C. 2304(c)(1)

Energy Support Services

1. This document is a Justification for Other than Full and Open Competition prepared by the NASA Lyndon B. Johnson Space Center (JSC) in accordance with Federal Acquisition Regulation (FAR) Part 6.3 Other Than Full and Open Competition and NASA FAR Supplement Part 1806.3 Other Than Full and Open Competition

2. The nature and/or description of the action being approved: This justification provides the rationale for contracting by other than full and open competition for a sole-source Indefinite Delivery/Indefinite Quantity (IDIQ) contract award to Honeywell International, Inc. This will be a follow-on contract to JSC's current IDIQ Energy Management Services contract, NNJ08JE85B.

It is vital that the services under the subject contract be sustained to guarantee continuity of ongoing critical Center Operations support for Energy Conservation Measures (ECM). The services required on this contract will be divided between basic services Task Orders (TOs) issued at the start of each new contract year with an annual budget of $2,480,000 per year and TOs that fund future planned, beneficial energy projects throughout the year to provide various Center upgrades. This contract will be instrumental in maintaining JSC's ability to institute future energy projects in accordance with Executive Order 13423. The purpose of Executive Order 13423, Strengthening Federal Environmental, Energy, and Transportation Management dated January 24, 2007, is to reduce all federal facility "environmental footprints" inclusive of energy and water usage. Due to the proprietary technologies developed by Honeywell International, Inc., which are currently in use at JSC, Honeywell International Inc. is the only responsible source available to perform the current ECMs that the Center is pursuing.

3. Description of the supplies or services required and the estimated value: The estimated value for this effort is $12.4 million for 5 years.

The purpose of this contract is to provide the following Energy Management Services:

a. Manage and monitor JSC facility energy consumption through the use of the Honeywell Enterprise Building Integrator (EBi) and the EBi Energy Manager Software application to achieve JSC's energy objectives and ensure optimum performance of JSC's previously installed ECMs.

b. Sustain the operation of the Energy Monitoring and Control System (EMCS),

EBi system hardware, software, and communications (not including network communications); provide all EBi software updates and direct access for EBi software support from Honeywell Technical Assistance Center; and expand existing EBi software point license and add EBi application drivers.

c. Maintain the building automation system hardware including controller maintenance on a semi-annual basis for all the Honeywell family of XL5000 building controllers.

d. Utilize EBi system data to develop a strategic plan for JSC's electricity and gas block buys and commodity usage.

e. Perform utility billing verification using EBi Energy Manager Module and provide future ECM recommendations necessary to meet presidential mandates and NASA Headquarters requirements.

f. Maintain, update, and manage "as-built" drawings including a sequence of operations and control drawings, and controller programs using Honeywell XL5000 Care Software.

4. Statutory authority permitting other than full and open competition: The statutory authority permitting other than full and open competition is 10 U.S.C. 2304(c)(1) Only One Responsible Source and No Other Supplies or Services Will Satisfy Agency Requirements. Per FAR 6.302-1(b)(2), the existence of limited rights in data, patent rights, copyrights, or secret processes; the control of basic raw material; or similar circumstances, make the supplies and services available from only one source.

5. A demonstration that the proposed contractor's unique qualifications or the nature of the acquisition requires use of the authority cited: In July of 1998, Honeywell was awarded an IDIQ Energy Savings Performance Contract (ESPC), NAS9-99075, through the Department of Energy under full and open competition with a completion date of 2022. The primary purpose of the ESPC (NAS9-99075) was to develop, finance and install projects designated to improve energy efficiencies and reduce operations and maintenance costs for its customer's facilities.

The current IDIQ contract, NNJ08JE85B, was awarded to Honeywell International Inc. in 2008 to perform duties necessary to sustain the operation of energy management control system hardware, software, and communications (put in place by NAS9-99075) 24 hours/day, 7 days/week. This contract is due to expire on May 31, 2013.

Specifically, the purpose of this IDIQ contract is to sustain the following tasks:

a. Sustaining the operation of the energy monitoring and control systems of the EBi's hardware, software, and communications

b. Providing EBi system updates and direct access for software support

c. Utilizing EBi system data to develop strategic plans for JSC's electricity and gas block buys and commodity usage

d. Performing utility billing verification using the EBi Energy Manager Module

e. Providing future energy conservation measure recommendations necessary to meet Presidential mandates and NASA Headquarters requirements and identify possible Center upgrades and recommendations necessary to ensure Presidential conservation mandates are met

f. Maintaining building automation system hardware including controller maintenance for all Honeywell family of XL5000 building controllers

g. Prepare Studies and Plan Services that outline best practices for the development of energy technology such as renewable energy and combined heating and cooling projects at JSC

The submission of recommendations under this contract does not imply that a sole source will be made to Honeywell for future work. The implementation of any recommendations would be structured to ensure the use of full and open competition.

Under the aforementioned ESPC (NAS9-99075), Honeywell installed approximately $20 million worth of capital equipment at JSC, Ellington Field, and Sonny Carter Training Facility (SCTF) based on NASA's expected savings in energy costs generated via those privately-funded capital improvements which provide approximately $2 million in annual energy cost savings.

Honeywell's EBi system was installed as the EMCS at JSC and facilitates the monitoring process Honeywell uses to ensure cost savings are actually transpiring.

EBi is a complex system employing control algorithms specifically tailored by Honeywell International, Inc., for JSC's facility systems and equipment. The EBi system is the energy management and control system for all the mall buildings, central plant, electric substation, water treatment plant, some of the outlying buildings, and SCTF. The EBi system is used to turn the Heating, Ventilation and Air conditioning systems (HVAC) equipment and lights on in the mall buildings, and is used to monitor the operation of, and respond to, alarms and calls associated with the central plant and buildings systems. The system is used to identify the building operating hours, which assist in reducing the amount of energy used on the site. The EBi system is also used for collection of building meter data to validate monthly utility bills for JSC, Ellington Field, and SCTF. This is proprietary data and is used to manage and monitor JSC's energy consumption and savings.

The Energy Manager module, an application within EBi, validates utility data, identifies energy demands, and provides the data necessary to negotiate future competitive utility rates. JSC executed Honeywell Building Solutions License Agreements for Honeywell EBi and Digital Video Manager Software Products, which state:

The Honeywell Enterprise Buildings Integrator and Digital Video Manager

software is proprietary, and the title to the software remains with Honeywell. In addition, the agreement states that JSC will not sell, transfer, publish, display, disclose, or make the software or any copies available to others and will not reverse compile, disassemble or otherwise reverse engineer the software. Honeywell retains all right in patents, copyrights, trademarks, and trade secrets. Based on these limitations, no other company is able to utilize the Honeywell proprietary software required to manage, monitor, upgrade, and service the EBi system.

6. Description of the efforts made to ensure that offers are solicited from as many potential sources as practicable: On January 28, 2013, this effort was synopsized in accordance with Subpart 5.2-Synopses of Proposed Contract Actions as a sole-source procurement through the NASA Acquisition Internet System to ensure that the market interest and ability to perform this effort was adequately assessed. One response to the synopsis was received from Ameresco.

After a thorough review of the capabilities statement provided by Ameresco, it has been determined that the financial, technical, and infrastructure risks to the Government are too great to compete this work at the present time.

It is not in the Government's best interest to replace the existing EBi front-end without first replacing the existing Honeywell proprietary controllers with more Open Architecture, Bacnet Testing Laboratories (BTL) capable controllers. The most efficient approach to replacing these controllers is to replace them as part of larger projects that will replace the associated HVAC equipment (such as air handler, pumps, etc.) that due to deferred maintenance requirements have become dilapidated, non-serviceable, or outdated.

The Contracting Officer's Representative reviewed Ameresco's capabilities and determined that it is in the Government's best interest to sole source this effort to Honeywell International Inc. based on the risks identified below:

a. Ameresco suggests replacing the existing Honeywell EBi front-end with a Tridium front-end system. If that option were allowed, it would require installing a device referred to as a Gateway. The Gateway would translate the language protocol of the EBi controller into a language that could be interpreted by the new Tridium front-end. The additional upgrades that would be necessary to maintain an operational EMCS system are:

i. Replacing the existing Honeywell EBi software with Tridium front-end software
ii. Rewriting the front-end databases
iii. Recreating front-end graphics for approximately 26,000 points
iv. Replacing existing EBi servers and workstations with Tridium servers and workstations
v. Training government and facility contractor personnel to use the new Tridium front-end. The government estimates this would translate to an additional $16 million over and above the existing contract

b. The existing EMCS consists of multiple subsystems communicating to one common front-end (EBi servers and workstations), which currently is the Honeywell EBi system. The subsystems consist of 196 controllers communicating to 26,000 analog and digital points throughout JSC, SCTF, and Ellington Field.

Ameresco intends to leave the Honeywell building level controllers and associated field level components in place. Facility equipment (such air handlers, lights, and pumps) controlled by these devices are old and projects have been proposed to upgrade the equipment.

A controller is a computer that has been modified to monitor and control the 26,000 points (temperature, pressure, flow, start, stop commands etc.) on HVAC, lighting, central plant equipment (i.e. boilers, chillers, etc.). The controllers are from multiple vendors (including Honeywell, Johnson Controls, Automated Logic, Rockwell Automation, and Liebert). Of the 196 controllers, 116 are Honeywell proprietary. While the hardware for the controllers can be purchased in the open market, the software to program the controller requires a license that can only be purchased from Honeywell. In the event of a controller failure, Ameresco would have to write a control program for each new controller.

Ameresco's capabilities statement requires NASA to assign them as a newly appointed authorized agent of the existing Honeywell EBi system (including all software tools and applications used to manipulate the EBi system). The JSC/Honeywell contract states that JSC will not sell, transfer, publish, display, disclose, or make the software or any copies available to others and will not reverse compile, disassemble or otherwise reverse engineer the software.

The Government estimate to replace the existing Honeywell EBi System at JSC, SCTF, and Ellington Field is approximately $29 million in addition to the estimated $12.4 million.

7. Description of the market survey conducted, and the results, or a statement of the reasons a market survey was not conducted: During the initial acquisition phase of the NASA/JSC building automated controls contract (NNJ08JE85B), a market survey was conducted to determine if Honeywell's authorized vendors were capable of utilizing and modifying the proprietary building automated controls software already installed at JSC and other JSC locations. Multiple Honeywell Authorized Automation and Control Specialist (HAACS) contractors were surveyed and it was determined that "each HAACS verified that the software was proprietary to Honeywell and that they were unable to perform this effort. In addition, Honeywell's Automation and Control Division confirmed that authorized vendors may install only the building controller hardware managed by the EBi system; they are not authorized to utilize Honeywell's proprietary software." This means that the software is not accessible to, or will not communicate with other manufacturers' hardware and controllers.

Market research conducted on January 30, 2013, concluded that since the proprietary Honeywell system is unique to the building control systems, all building control systems throughout JSC would have to be replaced in order for another contractor to perform the work. The replacement costs would be approximately $29 million if another contractor were to perform this work.

Other cost prohibitive factors include the fact that other potential proposing contractors would be required to be capable of performing the following:

a. Must have the capability to operate and maintain the existing proprietary EMCS without subcontracting to Honeywell which would include an additional layer of costs since Honeywell International, Inc. is already performing the tasks directly;

b. Replace EMCS with a different system. However, the costs to replace the existing proprietary Honeywell EBi is approximately $29 million and is a duplication of costs that are already funded through the ESPC, NAS9-99075, as mentioned in section 5 of this document;

c. Replacing the existing 26,000 EBi control points. This would require extensive rewiring of the existing wiring and controller programming. During replacement efforts, the energy control system of the site might not be operable.

d. There are currently 196 controllers in the EMCS. 116 or 60 percent of the total controllers are Honeywell proprietary Xcel 800 and 500 model controllers [53 out of 57 (93 percent) buildings on site are connected to Honeywell controllers] would have to be upgraded to open architecture, BTL type controllers. The life expectancy of an Xcel 800 and 500 controller is 20 years, and none of the existing controllers have less than 5 years of life remaining

8. Other facts supporting the use of other than full and open competition: Please see the discussion in sections 6 and 7 of this document that discuss the cost prohibitive factors associated with a full and open competition due to proprietary technology currently in use at the JSC which was developed by Honeywell Building Solutions.

9. Sources, if any, that expressed an interest in writing in the acquisition: Ameresco submitted a capabilities statement on February 11, 2013, expressing their interest in the acquisition.

10. The actions, if any, the Agency may take to remove or overcome any barriers to competition before any subsequent acquisition for the supplies or services required: The follow-on contract will include a requirement to provide the installation of "open architecture," and BTL capable controllers when the current controllers require repair or replacement, or when a construction project replaces or adds enough points (ten or more) making a controller upgrade cost-effective.

The goal is that at the end of this contract, the subsequent contract will be available for full and open competition to replace just the servers and workstations that provide a "Man/Machine Interface" without having to globally replace the controllers in the field as well as replacing any associated energy management servers. Not only will this allow for open competition but it will likely reduce the base cost of the next contract.

a. Several new and existing building control systems have been upgraded to BTL systems open architecture. These include buildings 20, 16, 49, 30, 350, and 356.

b. As new construction projects are implemented, the requirement for BTL open architecture systems is being added to the specifications (example building 16 and 16A Air Handler Replacement).

Plan For Converting EMCS to Open Architecture:

a. In the past 5 years, the Government has replaced a total of 80 controllers or 41 percent of the original 196 controllers to open architecture (non-proprietary) type controllers. The new controllers can be purchased on the open market and can be programmed by any NASA authorized maintenance contractor.

b. For the follow-on contract, the Government is developing specifications that will require all new controllers to be open architecture type. This will ensure that the Government is in a much better position to open the replacement of the front end EBi system to open competition.